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ALOE SUCCOTRINA LAM.

A HISTORY OF THE PLANT AND ITS NAME.

(With Plates I—IV.)

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Of all the many and diverse epithets employed in the genus *Aloe*, none has such a historically interesting, albeit confused background, as *A. succotrina* Lam.

It is said that *Aloes* (the drug) was known to the Greeks as a product of the Island of Socotra as early as the fourth century before the Christian era (*Bot. Mag.* t. 6596 (1881)), while de Candolle *Plant. grass.* II 85 (1799) states that *Aloe Succotrina* was discovered on that Island in 1508.

A very early reference to the use of the name *A. succotrina* will be found in The Great Herbal, first published in London by Thos. Gerard in 1597, amended by Thos. Johnson in 1633.

Under "of the Historie of Plants" Chap. 141, pp. 508—509, it is recorded that :

"The juice of this herbe *Aloe* (whereof is made that excellent and most familiar purger, called *Aloe Succotrina*) the best is that which is cleare and shining. This *Aloes* taken in a small quantitie after supper in a stewed prune . . . is a most souveraigne medicine to comfort the stomache. . . . This plant groweth very plentifully in India, in Arabia, Coelofuria and Aegipt from whence the juyce put into skins is brought into Europe."

The Island of Socotra is not mentioned as a locality of origin, but an *Aloe* plant is figured under the name "*Aloe vulgaris, sive Sempervivum marinum, Common Aloe, or Sea-Housleeke*". This figure is an exact reproduction of the *Aloe* figured in Dodonaeus *Stirpium Historiae* p. 355

(1583), which figure has been identified by Dr. E. D. Merrill, Administrator of Botanical Collections of Harvard University, as representing *A. vera* Linn.

At that time, and subsequently, the name *A. succotrina* was applied to the species now known as *A. vera*, and had no connection with the Island of Socotra, or with the Cape plant.

Another early record of the use of the epithet *succotrina* is to be found in O. Dapper's *Afrika: Naukeurige Beschrijvinge der Afrikaensche Gewesten* published in Amsterdam in 1688, with a further edition in 1676. In the 1668 edition, under "Het Eilant van Sokotora," a paragraph appears on p. 686 dealing with *A. succotrina*. The original Dutch is reproduced herein (Fig. 1), a translation of a portion of it being:

"The one thing which distinguishes this Island is the vegetation which produces the *Sokotoriner Aloes* which grow here in great quantities and better than anywhere else, and indeed the plant bears the name of the Island, although some do not spell it *Sokotorina* but *Succotrina*, as if they wanted to say *Succocitrina* because this Aloe, ground in a mortar is of a yellowish colour."

De zee, onder het eilant, verschaft
 hen veel grote visschen. Maer 't geen
 dit eilant boven mate vermaert maakt,
 is het gewas, daer de *Sokotoriner Aloë*
 van komt, die hier in grote meenigh-
 te, en nergens zo goet als op dit eilant
 valt, gelijcke daer ook den naem van
 voert; hoeweelenigen niet *Sokotori-*
na, maer *Succotrina* spelden, als of
 men *Succocitrina* wilde zeggen, om
 dat deze Aloë, in de vijfel gestoren,
 citroen geel van kleur is. Dit eilant
 heeft ook zijne vermaertheit beko-
 men, door den groten overvloed van
 draken-bloet, die als een Gom uit ze-
 zekere bomen, by d' Indianen *Ber* ge-
 noemt, komt druipen, na dat zy des
 voorgaenden jaers op een gezetren
 tijdt met een yzer in den schors des
 stams gequest zijn. d' Oever der
 zee werpt ook Ambre-grijs op.

FIG. 1. Reproduction of the paragraph on *Aloe Sokotorina* from the Island of Socotra, from p. 686 of Dapper's *Afrika*, Amsterdam (1668).

This appears to be the earliest record of the name *A. succotrina* being used for an Aloe found on the Island of Socotra. Dapper's reference to

"*Succocitrina*—yellowish in colour," is highly interesting, since it suggests that it could have been the yellowish colour of the dried sap which had a bearing on the choice of the name.

John Ogilby, in his *Africa*, London, p. 623 (1670)—which appears to be mostly an English translation of Dapper's work—also has a reference, under "The Island of Socotra", reading:

"But that which above all makes the Island famous is the plant from which the *Aloes Sicotrina* cometh . . ."

The Aloe found in abundance on the Island of Socotra to-day is *A. Perryi* Bak., figured in *Bot. Mag. t.* 6596 (1881). *A. Perryi* is, however, a species markedly distinct from both *A. vera*, and the Cape species known as *A. succotrina*.

Muntingius *Aloidarium* fol. 21 (1680) has a queer figure of *Aloe vera minor* which is cited as a synonym under *A. succotrina* by Haworth in *Trans. Linn. Soc.* VII, p. 20 (1804), while *Bot. Mag. t.* 1474 (1812) cites it under *A. succotrina* β *purpurascens*. The first published figure of *A. succotrina* is Plukenet *Phytographia*, vol. 2, tab. 240, fig. 4, London (1691), where, in the appendix to Part 3, it is figured under the name *Aloe americana ananafoliis florib., sauve rubentibus*. (Plate I, Fig. 1). The name suggests a plant of new world origin, but the figure clearly points to *A. succotrina* of the Cape, especially in the length of the pedicels.

Lamarck in his *Encyclopédie*, p. 85 (1783) cites this as a synonym for his *A. succotrina*, so does D.C. *Plant. grass.* 85 (1799), and Haworth in *Trans. Linn. Soc.* VII, p. 20 (1804), while *Bot. Mag., t.* 1474 cites it under *A. succotrina* β *purpurascens*.

The second figure is *Aloe succotrina angustifolia spinosa, flore purpureo* in Johan Commelin *Hort. Amst.* I, 91-92, t. 48 (1697). (Plate I, Fig. 2.) Commelin records that he obtained a young plant from Simon van Beaumont, Secretary to the States-General of Holland and West Friesland, and that it had been sent from the East Indies—by whom is not recorded. It must be remembered that in those early days the East Indies was a broad term which frequently included the Cape. Since Commelin's plant could not have come from the Dutch East Indies, and since the Island of Socotra is not mentioned, it must have been collected at the Cape. It flowered in Amsterdam in 1689, and 1690, in the month of February, and was the first South African species of Aloe to be grown in Europe. Commelin's final paragraph reads (from the Dutch):

"When the leaves are cut through, they give a yellow bitter sap which is better and more pleasant to the smell than that of the usual and true Aloe, whose sap is unpleasant and stinks, but the smell of this one conforms with that of the true *Aloe Succotrina*."

This indicates that Commelin recognised his Cape Aloe as differing from "the usual and true Aloe"—which presumably was *A. vera*.

Simon van Beaumont's plants were sold at Leiden on Tuesday, 27th August, 1726, and *A. succotrina* was among those listed for sale in the *Catalogus Horti Beaumontiani*. It is surprising that *A. succotrina* was not among the species of Aloe growing in the Dutch East India Company's Garden at the Cape in 1695, while Oldenland was Superintendent there.

Linnaeus in *Spec. plant.* 320 (1753) cites both Plukenet (*l.c.*) and Commelin (*l.c.*) as synonyms for his *A. perfoliata* var. ξ which later became *A. succotrina* Lam.

The *A. vera* of Miller in *Gard. Dict.* ed. 8 No. 15 (1768) is not the *A. vera* of Linnaeus. Miller states that his plant is the "true Succotrine Aloe", but it is not, it is the Cape species *A. succotrina* Lam.

The first to employ a binomial was Garsault in *Description des Plantes et Animaux*, etc., i. p. 73 (1767), in which he described *A. soccotrina* from "l'Isle de Saccotora". According to the Preface, p. iii, Garsault's figure, t. 102, was published separately in 1764. This figure is reproduced herein (Plate II, Fig. 1).

Although Garsault's work was post-Linnean in date, his nomenclature is pre-Linnean in character, many of his names being uninomial and others polynomial. According to International Rules, Art. 68 (4), specific epithets are illegitimate and must be rejected "when they are published in works in which the Linnean system of binary nomenclature for species was not consistently employed." Such binary names as Garsault did use, must, therefore, be rejected—and this includes his *A. soccotrina*.

The first to comply with the Rules was Lamarck, and thus, *A. succotrina* Lam. in *Encyclopédie Méthodique* I, p. 85 (1784) is upheld, both as regards the author and the spelling of the epithet. There is no figure, but Lamarck states: "This plant grows in the Indies and particularly on Soccotera Island. It is the best, the most beautiful, and the purest of the three kinds of Aloes available in the shops. . . . It is brought in leather bags from l'Isle de Soccotera." Lamarck's description, however, fits the Cape species, and not *A. Perryi* of Socotra.

A. succotrina is not mentioned in Hill's *Hortus Kewensis* (1769), but William Aiton in his *Hort. Kew.* I, p. 466 (1789) lists *A. perfoliata succotrina*. Aiton also lists a new name for the first time, namely, *A. perfoliata* var. *purpurascens*, but he gives no locality of origin for either.

The *A. sinuata* of Thunberg in *Prod. I.*, 61 (1794), *Diss. Aloe I.* (1785) and II., p. 182 (1800), also *Flora capens.* ed. Schult., p. 311 (1823) is *A. succotrina* Lam.

An excellent figure, both in artistry and detail, is that of the incomparable Redouté in D.C. *Plant. grass.* II, p. 85 (1799). (Plate II, Fig. 2.)

De Candolle states that his *A. Succotrina* originally came from the Cape of Good Hope and Barbados, and that the name was given to it because it is collected on "l'île de Succotora ou Zocotora." Notwithstanding this, a study of the figure establishes without doubt that the plant is the *A. succotrina* of the Cape, and not *A. vera* of Barbados or *A. Perryi* of Socotra.

Some of the early botanical travellers did not help matters but added to the confusion by incorrect references to *A. succotrina*. As an example, Masson in *Phil. Trans. Roy. Soc. Lond.*, vol. LXVI, p. 287 (1776) when on his second journey (with Thunberg) and when he was in the Riversdale District on November 12th, 1773, writes "On the declivities of these low hills grows the *aloe Socotorina* in large clumps . . . the peasants make great quantities of the gum aloes from the sap of the leaves which they sell at the Cape at from two to six pence per pound." *A. succotrina* has never been known in the Riversdale district, and Masson clearly confused *A. ferox* Mill.

Thunberg also has an incorrect reference to *A. succotrina*, for in his *Travels*, vol. I, p. 213 (1794), when on his return from "Caffraria," he refers to seeing hedges of the *Aloe succotrina* after leaving "Gert Clute's farm at Slange rivier". This is a locality some distance east of Swellendam and one where *A. succotrina* has never been known to occur wild.

Bot. Mag. t. 472 (1800) figures *A. perfoliata* var. *succotrina*, the Succotrine Aloe, while on t. 1474 (1812) *A. soccotrina* β *purpurascens*—"The Largest Succotrine Aloe,"—is figured. *Bot. Mag.* correctly regarded both as belonging to one species, and under the latter name sinks most of the earlier names as synonyms, including *A. purpurascens* Haw., *A. succotrina* Lam., *Comm. Hort. Amst.* I, t. 48 (1697), Pluk. *Phytog.*, t. 240 (1691). If subsequent workers had followed *Bot. Mag.* and upheld only one species, the position would have been clarified, but they did not.

Haworth in *Trans. Linn. Soc.* VII, p. 19 (1804) upholds *A. succotrina*, and he raises Aiton's *A. perfoliata purpurascens* to distinct specific rank, i.e. *A. purpurascens* (Ait.) Haw.; but he gives no locality of origin for either.

In the same work Haworth introduces a new name which must be considered, namely, *A. ramosa* Haw. in *Trans. Linn. Soc.* VII, p. 26 (1804), which both Baker and Berger cite as synonym under *A. purpurascens*. This is incorrect. Haworth founded his *A. ramosa* on *Aloe spinosa arborescens ramosa*, Pluk. *Phytog.*, t. 129, fig. 4 (1691), and on *Aloe capensis arborescens ramosa*, Pet. *Gaz.*, Cat. No. 264, t. 87, fig. 9 (1764). (Note: The cited cat. No. 264 is wrong; the correct number is 465.) A study of these figures is interesting. Plukenet's figure 4 on plate 129 is very clearly copied from the Claudius drawing of *A. dichotoma* on fol. 799 of the plants figured and included in Simon van der Stel's Journal of his Expedition to Namaqualand in 1685-86. (See Ed. Waterhouse, 1932 and *Journ. S.A. Bot.* XIII pl. VI, p. 28, 1947.)

Petiver's *Gazophylacii Naturae et Artis*, tab. 87, fig. 9, London (1711), repeated in the 1764 edition which has the cat. no. added, is also *A. dichotoma*, since it is an exact copy of Plukenet's figure but reversed. *A. ramosa* Haw. is, therefore, a synonym of *A. dichotoma* and not of *A. purpurascens*.

In *Hort. Kew* II, p. 292 (1811), Aiton also upholds both as species, and records "The Soccotrine Aloe, *A. soccotrina*, from the Cape of Good Hope and Barbadoes". He also upholds *A. purpurascens*, but for the first time the "Purple Aloe" is recorded as being native to the Cape of Good Hope. Since no precise locality is indicated, there is no knowing whether *A. purpurascens* hailed from the Peninsula, or from the mainland along the coast near Kleinmond or Hermanus.

From that time onwards, both *A. succotrina* and *A. purpurascens* have been upheld as specifically distinct. Haw. *Synops.*, p. 75 (1812) lists both from the Cape, while R. & S. *Syst. veg.*, p. 692 (1829) cites the Cape for *A. purpurascens*, and (p. 701) the Barbados for *A. soccotrina*. Salm Dyck *Monogr.* (1842) figures both, and Kunth *Enum.* IV (1843) also lists both.

Baker in *Journ. Linn. Soc.*, pp. 173-174 (1881) lists both, and he records a collecting of *A. succotrina* by Harry Bolus near Uitenhage. This is wrong; the Uitenhage plant was *A. pluridens* Haw., as Marloth has pointed out.

Baker in *Flora capens.* VI, 321-322 (1896) lists *A. succotrina* and *A. purpurascens*, but of the latter he says, "Scarcely more than a variety of *A. succotrina*".

It was not until 1906, however, that a precise locality was recorded where *A. succotrina* grew wild at the Cape. In a paper entitled "Notes on *Aloe succotrina* Lam.," read June 28, 1905, and published in *Trans.*

S. Af. Phil. Soc. XVI, p. 213 (1906) Marloth records that the species occurred on slopes of Table Mountain, about 1,200 ft. above Newlands (i.e. Kirstenbosch) on an immense field of boulders. He also records a variety "among the rocks of the so-called Little Lions Head near Hout Bay," and continues, "It is probable that a plant growing on rocks near the mouth of the Kleyn River is this species, or its nearest ally, *A. purpurascens*".

So, at long last, a precise locality was given for the species which had been "lost" for over 200 years. *A. succotrina* also occurs in numbers on the Karbonkelberg (See Plate III), near Hout Bay, but this locality, as well as Kirstenbosch, was then so difficult of access that it is highly unlikely that the original plant was collected at either of these localities. Was it perhaps collected on the Glencairn hills on the old road to Simonstown? The precise locality, it seems, will never be known, but one thing is certain and that is, that *A. succotrina* occurs wild at the Cape, and at no other known locality in the world. The precise locality of *A. purpurascens* is also not known.

It must be remembered that Aloes vary in their different localities and under varied climatic conditions. Plants from Kirstenbosch and Karbonkelberg in the Peninsula, and from Kleinmond and Hermanus on the mainland, have been grown in Johannesburg (See Plate IV) and compared when they flowered. Allowing for natural and expected minor differences between individuals, they very clearly constitute forms of one species only. The writer is, therefore, of opinion that *A. purpurascens* is not specifically distinct, and should be reduced to synonymy under *A. succotrina*. Berger (*l.c.* 283) describes a var. *saxigena* with straighter leaves, and larger marginal teeth, but without flowers. This variety, it appears, could also well be dropped.

It is not necessary to describe the species again, but the following is the synonymy:—

A. succotrina Lam. *Encycl.*, p. 85 (1783); Persoon *Synops. pl.* I, p. 378 (1805); Salm Dyck *Cat. rais.*, p. 28 (1817); *Hort. Dyck.*, p. 15 (1834); Salm Dyck *Monogr.*, sect. 22, fig. 1 (1842); Baker *Journ. Linn. Soc.*, p. 173 (1881), in Th. Dyer *Flora capens.* VI, p. 321 (1896); Marloth in *Trans. S. Af. Phil. Soc.* XVI, p. 213 (1906); Engler et Drude *Veget. Erde.* IX, II, p. 338 (1908); Berger in Engler *Pflrch. Liliac.-Aloin.*, p. 282 (1908); *Gard. Chron.*, ser. III, lvi, suppl. t. 400 (1914).—*A. succotrina* var. *saxigena* Berger (*l.c.*), p. 283 (1908).—*A. succotrina* Garsault *Descript. Plant. Anim.*, i, p. 73, t. 102 (1767); D.C. *Plant. grass.*, p. 85 (1799); Haworth *Trans. Linn. Soc.* VII, p. 19 (1804); Ait. *Hort. Kew* II, 292 (1811); Haw. *Synops.*, p. 75 (1812).—*A. succotrina* R. & S. *Syst. veg.*, p. 701 (1829); Kunth. *Enum.* IV, p. 524 (1843).—*A. perfoliata*

var. ξ Linn. *Spec. pl.* I. p. 320 (1753).—*A. perfoliata* var. *succotrina* Ait. *Hort. Kew.* I, p. 466 (1789); Curtis *Bot. Mag.*, t. 472 (1800).—*A. sinuata* Thunberg, *Prod.* I. p. 61 (1794), *Diss.* I (1785), II (1800), *Flora capens.* ed. Schult., p. 311 (1823).—*A. vera* Mill. *Gard. Dict.*, ed. 8, No. 15 (1768), non Linn.—*A. purpurascens* Haw. *Trans. Linn. Soc.* VII, p. 20 (1804); Ait. *Hort. Kew.* II, p. 292 (1811); Haw. *Synops.*, p. 75 (1812); R. & S. *Syst. veg.*, p. 692 (1829); *Hort. Dyck.*, p. 15 (1834); Salm Dyck *Monogr.*, sect. 22, fig. 2 (1842); Kunth. *Enum.* p. 524 (1843); Bak. *Journ. Linn. Soc.*, p. 174 (1881), Th. Dyer *Flora capens.* VI, p. 322 (1896); Berger in Engler *Pflrch. Liliac.-Aloin.*, p. 284 (1908).—*A. perfoliata* var. *purpurascens* Ait. *Hort. Kew.* I, p. 466 (1789).—*A. soccotrina* β *purpurascens* Ker-Gawl. in *Bot. Mag.*, t. 1474 (1812).

Pre-Linnean Nomenclature: *Aloe succotrina angustifolia spinosa, flore purpureo*.—Comm. *Hort. Amst.* I, 91-92, t. 48 (1697); Tillius *Cat. pl. Hort. Pis.*, p. 7 (1723); Linn. *Hort. Cliff.*, p. 131 (1737); Breyn. *fil. Prod.* II, p. 41 (1739).—*Aloe vera minor* Munt. *Aloid.*, fol. 21 (1680); Boerh. *Index* 2 No. 3 p. 129 (1727).—*Aloe Indiae Orientalis serrata sive succotrina vera floribus phoeniceis*, Hort. Beaum., p. 5 (1690).—*Aloe Americana ananafoliis florib., sauve rubentibus* Pluk. *Phytogr.* 2., t. 240, fig. 4 (1691).—*Aloe serrata sive succotrina angustifolia flore purpureo*, Cat. Hort. Beaum., No. 81, p. 7 (1726).

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FIG. 1.



FIG. 2.

PLATE I.

A. succotrina Lam.

FIG. 1. The first figure published—from Plukenet *Phytographia*, vol. 2, t. 240, fig. 4, London (1691).

FIG. 2. The second figure—from Commelin : *Hort. Amst.* I, 91-92, t. 48, Amsterdam (1697).



FIG. 1.



FIG. 2.

PLATE II.

A. soccotrina Lam.

FIG. 1. *Aloe Soccotrina* from Garsault *Descript. Plant. Anim.*, i., p. 73 (1767), t. 102, being published in 1764.

FIG. 2. Redouté's excellent figure of *A. soccotrina* in D.C. *Plant. grass.* II, p. 85 (1799).



PLATE III

A. succotrina Lam.

Plants in natural habitat, on the Karbonkelberg, near Hout Bay, Cape Peninsula.
Fl. Aug., 1945.

Photos : Prof. R. H. Compton.



Fig. 1.



Fig. 2.



Fig. 3.

PLATE IV.
A. succotrina Lam.

Fig. 1. A plant—from the Karbonkelberg—which flowered in Johannesburg in June, 1940.
Fig. 2. Raceme approx. 1/3.
Fig. 3. Flowers 1/1.